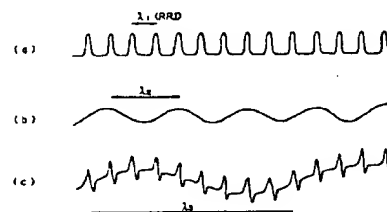**(54) WAKING DEGREE DECIDING DEVICE**
(11) 5-42129 (A)   (43) 23.2.1993 (19) JP
(21) Appl. No. 3-223549 (22) 9.8.1991
(71) TOYOTA MOTOR CORP (72) BUNJI ATSUMI
(51) Int. Cl⁵. A61B5/18, A61B5/0245

PURPOSE: To provide the waking degree deciding device which can deal with personal differences and can decide waking degrees with a small number of samples.

CONSTITUTION: The device which detects the respiratory fluctuation of the beating time of heart beats and decides the waking degree includes a means for detecting the number of heart beats, a means of detecting the number of respirations and a controller for receiving the signals therefrom. The controller determines a sample number $n = \lambda_2/\lambda_1$ from the period λ_1 of the detected number of heart beats and the period λ_2 of the detected number of respirations, determines the variance of the beating time by the sample number $= (n)$, and determines the decision value by multiplying a specified value $\alpha (\alpha > 1)$ with this variance. The sample number during traveling is determined from the period of the number of heart beats and the period of the number of respiration during traveling and the variance of the beating time by the sample number during the traveling is determined. The variance during the traveling and the above-mentioned decision value are thus compared.
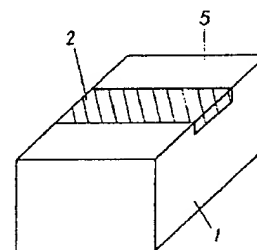

(a): heart beat, (b): respiration, (c): blood pressure

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(54) PHANTOM FOR CALIBRATION AND DATA CALIBRATION METHOD
(11) 5-42130 (A)   (43) 23.2.1993 (19) JP
(21) Appl. No. 3-200618 (22) 9.8.1991
(71) MATSUSHITA ELECTRIC IND CO LTD (72) TETSUO OOTSUCHI(3)
(51) Int. Cl⁵. A61B6/00, G01T1/161, G01T1/24

PURPOSE: To simultaneously execute the correction of the sensitivity between plural radiation detecting elements and the calibration of a quantitative analysis value with a quantitative analysis apparatus for a material consisting of these elements.
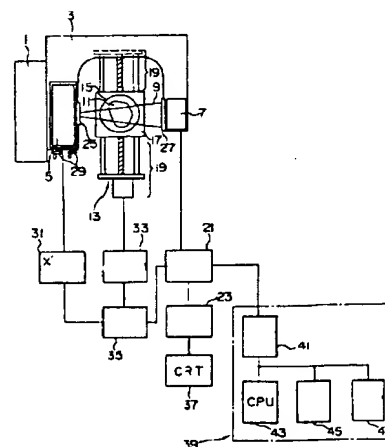
CONSTITUTION: The phantom 5 for calibration is constituted of an acrylic plate 1 and a bone equiv. phantom 2 of a known Ca quantity. This phantom for calibration is so installed to the X-ray quantitative analysis apparatus that all the radiation detecting elements measure the intensity of the transmission X-rays of the bone equiv. phantom 2 part of the phantom 5 for calibration. This bone equiv. phantom scans an X-ray generator and the radiation detecting elements in synchronization. The correction factor of the sensitivity between the radiation detecting elements is calculated from the resulted data. The Ca quantity of the bone equiv. phantom 2 is determined in accordance with an energy differentiation method. The calibration factor of the quantitative analysis value is calculated from the relation between the calculated Ca quantity and the known Ca quantity. The correction factor of the sensitivity and the quantitative analysis value are easily obtd. by only one measurement.

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(54) ADJUSTING DEVICE FOR CT SCANNER
(11) 5-42131 (A)   (43) 23.2.1993 (19) JP
(21) Appl. No. 3-205781 (22) 16.8.1991
(71) TOSHIBA CORP (72) KIICHIRO UYAMA
(51) Int. Cl⁵. A61B6/03, G03B42/02, G03C5/08

PURPOSE: To constitute this device so that anybody can execute easily the focusing of an X-ray source in a short time and with high accuracy.

CONSTITUTION: On a placing table 15 for placing a body 11 to be examined, pin phantoms are arranged at a prescribed interval in a vertical direction against the direction for moving an object 11 to be examined against a fan beam 9 radiated from an X-ray tube 5 in order to obtain a cross section image, and based on a moving distance at the time when this placing table 15 is moved in the moving direction and the output of an X-ray detector 7 relating to each pin phantom to this moving distance, an adjusting amount arithmetic part 39 processes arithmetically a focal position adjusting amount to the X-ray detector 7 of the X-ray tube 5.

21: data collecting part, 23: reconstituting part, 31: X-ray source driving control part, 33: driving control part, 35: central control part, 41: interface, 45: memory, 47: display

(51)Int.Cl.⁵		識別記号	庁内整理番号	FI	技術表示箇所
A 6 1 B	6/00	390 A	8119-4C		
G 0 1 T	1/161		Z 7204-2G		
	1/24		7204-2G		

審査請求　未請求　請求項の数5（全　4　頁）

(54)【発明の名称】　校正用ファントムおよびデータ校正法

(57)【要約】
【目的】　複数の放射線検出素子からなる物質の定量装置において、検出素子間の感度補正と定量値の校正を同時に行なう。
【構成】　アクリル板1とCa量が既知の骨等価ファントム2で、校正用ファントム5を構成する。この校正用ファントムを、すべての放射線検出素子がこの校正用ファントム5の骨等価ファントム2部分の透過X線強度を測定するようにX線定量装置に設置し、X線発生装置と放射線検出素子を同期して走査する。得られたデータから、放射線検出素子間の感度補正係数を算出する。また、エネルギー差分法にもとづき、骨等価ファントム2のCa量を求め、既知のCa量との関係から、定量値の校正係数を算出する。
【効果】　感度補正係数と定量値を1回のみの測定で容易に得られる。

5 校正用ファントム
2 骨等価ファントム
1 アクリル板